AMENDMENTS TO THE CLAIMS

Please replace all prior versions and listings of claims with the following listing of claims.

1. (Currently Amended) A method for applying a coating on a substrate, comprising:

a coating process including arranging, opposite the substrate, at least two expanding thermal plasma (ETP) sources which provide the substrate with a coating, wherein the substrate is located in a process room in which the pressure is lower than the pressure, prevailing in the ETP sources, of a carrier gas which is introduced into the process room via the sources and which forms the expanding plasma, wherein the coating provided by each source has a layer thickness according to a deposition profile;

choosing different process parameters such that, after the coating process, addition of the deposition profile results in a substantially uniform layer thickness of the coating on a part of the substrate, wherein one of the process parameters to be chosen is the distance between ~~the at least~~ two immediately adjacent ones of the sources, the sources producing plasma plumes at the same time; and

setting the distance, arc flow, and pressure of the carrier gas such that the expanding plasmas substantially do not create an interference pattern in any area of overlap of the resulting layer, and such~~influence each other, in the sense~~ that the shapes of the plasma plumes substantially correspond to the shape of a single plasma plume in a corresponding process chamber under otherwise corresponding process conditions.

2. (Previously Presented) A method according to claim 1, further comprising:

measuring thickness variations over a surface of the substrate of the layer obtained after the coating process, and

subsequently, adjusting the process parameters for reducing the measured thickness variations.

3. (Cancelled).

4. (Previously Presented) A method for applying a coating on a substrate, comprising:

a coating process including arranging, opposite the substrate, at least two expanding thermal plasma (ETP) sources which provide the substrate with a coating, wherein the substrate is located in a process room in which the pressure is lower than the pressure, prevailing in the ETP sources, of a carrier gas which is introduced into the process room via the sources and which forms the expanding plasma, wherein the coating provided by each source has a layer thickness according to a deposition profile, and

choosing different process parameters such that, after the coating process, addition of the deposition profile results in a substantially uniform layer thickness of the coating on a part of the substrate, wherein the substrate is stationary relative to the at least two sources and the at least two sources are switched on in alternation.

5. (Previously Presented) A method according to claim 1, wherein the substrate is moved relative to the at least two sources in a conveying direction, wherein the at least two sources are switched on at the same time and wherein at least one of the sources, viewed in the conveying direction, is arranged behind or in front of the other source and wherein the positions of the at least two sources in a direction transverse to the conveying direction are such that neighboring projections of a third source on an imaginary line extending transverse to the conveying direction are such that the projection position of one of the three sources is located in the middle between the other two sources.

6. (Previously Presented) A method according to claim 5, wherein three sources are provided which are located on angular points of an imaginary triangle, wherein two angular points are located on an imaginary line extending transversely to the conveying direction and wherein a third angular point is at equal distances from two other angular points.

7. (Previously Presented) A method according to claim 6, wherein one of the process parameters to be chosen, and to be varied depending on the other process parameters, for influencing the resulting layer thickness uniformity is an arc flow of each of the at least two ETP sources.

8. (Previously Presented) A method according to claim 7, wherein the arc flow of the source located on the third angular point is chosen to be lower than the arc flows of the other two sources.

9. (Previously Presented) A method according to claim 1, wherein one of the process parameters to be chosen, and to be varied depending on the other process parameters, for influencing the resulting layer thickness uniformity is the pressure of the carrier gas in the source.

10. (Previously Presented) A method according to claim 1, wherein one of the process parameters to be chosen, and to be varied depending on the other process parameters, for influencing the resulting layer thickness uniformity is a mutual positioning of the at least two sources.

11. (Previously Presented) A method according to claim 1, wherein one of the process parameters to be chosen, and to be varied depending on the other process parameters, for influencing the resulting layer thickness uniformity is an outflow angle of plasma plumes relative to the substrate.

12. (Original) A method according to claim 2, wherein the measurement of the layer thickness is performed automatically.

13. (Previously Presented) A method according to claim 2, wherein the measurement of the layer thickness is an optical measurement.

14. (Previously Presented) A method according to claim 2, wherein the measurement of the layer thickness is a resistance measurement between two or more points on the layer.

15. (Previously Presented) A method according to claim 2, wherein the measurement of the layer thickness is performed by a layer thickness gauge.

16. (Previously Presented) A method according to claim 2, wherein the measurement of the layer thickness is performed by a temperature measurement of the substrate surface.

17. (Withdrawn – Currently Amended) An apparatus for forming a coating on a substrate, comprising:

a process chamber enclosing a process room,

a pump configured to create an underpressure in the process room,

at least two expanding thermal plasma (ETP) sources <u>positioned immediately adjacent each other</u> through which a carrier gas is supplied to the process room, under a higher pressure than the pressure prevailing in the process room, thereby forming an expanding plasma in a coating process, and

a substrate holder configured to carry at least one substrate, wherein the coating applied by each source has a layer thickness according to a certain deposition profile, and wherein different process parameters are settable such that, after the coating process, the addition of the deposition profile results in a substantially uniform layer thickness of the coating on a part of the at least one substrate,

wherein one of the process parameters to be set is the distance between sources producing plasma plumes at the same time, wherein this distance is settable such that the expanding plasmas substantially do not create an interference pattern in any area of overlap of the resulting layer, and such~~influence each other, in the sense~~ that the shapes of the plasma plumes substantially correspond to the shape of a single plasma plume in a corresponding process chamber under otherwise corresponding process conditions.

18. (Withdrawn – Previously Presented) An apparatus according to claim 17, wherein the apparatus is provided with a measuring device for measuring layer thickness variations over the surface of the substrate, wherein the apparatus is provided with a control for automatically setting at least a number of the process parameters to be set depending on the layer thickness variations measured by the measuring device.

19. (Cancelled).

20. (Withdrawn – Previously Presented) An apparatus according to claim 17, wherein the substrate is stationary relative to the sources and wherein neighboring sources can be switched on in alternation.

21. (Withdrawn – Previously Presented) An apparatus according to claim 17, wherein the substrate is arranged movably relative to the sources in a conveying direction, wherein all sources are switched on at the same time and wherein at least one of the sources, viewed in the conveying direction, is arranged behind or in front of the other sources and wherein the positions of the sources in a direction transverse to the conveying direction are such that the neighboring projections of three sources on an imaginary line extending transverse to the conveying direction are such that the projection position of one of the three sources is located in the middle between the other two sources.

22. (Withdrawn – Previously Presented) An apparatus according to claim 21, wherein three sources are provided which are located on angular points of an imaginary triangle, wherein two angular points are located on an imaginary line extending transversely to the conveying direction and wherein the third angular point is at equal distances from the other two angular points.

23. (Withdrawn – Original) An apparatus according to claim 22, wherein the sources are slidable relative to the process chamber.

24. (Withdrawn – Previously Presented) An apparatus according to claim 23, wherein when the substrate moves in the conveying direction relative to the sources, the sources are slidable in a direction transverse to the conveying direction.

25. (Withdrawn – Previously Presented) An apparatus according to claim 17, wherein the sources are tiltably mounted on the process chamber, such that an angle of the plasma plumes relative to the substrate is variable.

26. (Withdrawn – Previously Presented) An apparatus according to claim 17, further comprising a control configured to vary the arc flows of the at least two ETP sources.

27. (Withdrawn – Previously Presented) An apparatus according to claim 17, further comprising a control configured to vary the pressure of the carrier gas in the at least two ETP sources.

28. (Withdrawn - Original) An apparatus according to claim 18, wherein the measurement of the layer thickness is performed automatically.

29. (Withdrawn - Original) An apparatus according to claim 18, wherein the measuring device for measuring the layer thickness variations over the surface of the substrate comprises an optical measurement device.

30. (Withdrawn – Previously Presented) An apparatus according to claim 18, wherein the measuring device for measuring the layer thickness variations over the surface of the substrate comprises an resistance measurement device for resistance measurement between two or more points on the layer.

31. (Withdrawn – Previously Presented) An apparatus according to claim 18, wherein the measuring device for measuring the layer thickness variations over the surface of the substrate comprises a layer thickness gauge.

32. (Withdrawn – Previously Presented) An apparatus according to claim 18, wherein the measuring device for measuring the layer thickness variations over the surface of the substrate comprises a temperature measurement device for temperature measurement of the substrate surface.

33. (Previously Presented) A method according to claim 1, wherein the deposition profile is a Gaussian deposition profile.

34. (Previously Presented) A method according to claim 1, wherein one of the process parameters to be chosen, and to be varied depending on the other process parameters, for influencing the resulting layer thickness uniformity is an arc flow of each of the at least two sources.

35. (Withdrawn – Previously Presented) An apparatus according to claim 26, wherein the control is configured to vary the arc flows of the at least two sources independently of one another.

36. (Withdrawn – Previously Presented) An apparatus according to claim 27, wherein the control is configured to vary the pressure of the carrier gas in the at least two sources independently of one another.

37. (Withdrawn – Previously Presented) An apparatus according to claim 17, wherein the deposition profile is a Gaussian deposition profile.